

WHAT IS CLAIMED IS:

1. A moisture vapor permeable, substantially liquid impermeable composite sheet material comprising:

5 a moisture vapor permeable monolithic polymeric film having a first side and a second side, and

a first nonwoven layer comprising a moisture vapor permeable powder-bonded nonwoven layer, said powder-bonded layer comprising a nonwoven web of fibers, wherein greater than 95 weight percent of the fibers
10 in the nonwoven web are compatible with said polymeric film, said first nonwoven layer being adhered to the first side of the polymeric film by extrusion of said film onto said first nonwoven layer.

2. The moisture vapor permeable, substantially liquid
15 impermeable composite sheet material of claim 1, further comprising a second moisture vapor permeable nonwoven layer adhered to the second side of the film.

3. The moisture vapor permeable, substantially liquid
20 impermeable composite sheet material according to claim 2, wherein said second nonwoven layer is not a powder-bonded layer.

4. The moisture vapor permeable, substantially liquid
impermeable composite sheet material according to claim 2, wherein said
25 second nonwoven layer is selected from the group consisting of spunbond, hydroentangled, stitchbonded, and flash spun plexifilamentary nonwoven fabrics.

5. The moisture vapor permeable, substantially liquid impermeable
30 composite sheet material according to claim 1, wherein said monolithic polymeric film comprises a polymer selected from the group consisting of a block polyether ester copolymer, a polyetheramide copolymer, a polyurethane

copolymer, a poly(etherimide) ester copolymer, polyvinyl alcohols, or a combination thereof.

5 6. The moisture vapor permeable, substantially liquid impermeable composite sheet material according to claim 2, wherein said monolithic polymeric film comprises a polymer selected from the group consisting of a block polyether ester copolymer, a polyetheramide copolymer, a polyurethane copolymer, a poly(etherimide) ester copolymer, polyvinyl alcohols, or a combination thereof.

10 7. The moisture vapor permeable, substantially liquid impermeable composite sheet material according to claim 1, wherein said first nonwoven layer is selected from the group consisting of poly(ethylene terephthalate), poly(1,3-propylene terephthalate) and copolymers thereof.

15 8. The moisture vapor permeable, substantially liquid impermeable composite sheet material according to claim 2, wherein said first nonwoven layer is selected from the group consisting of poly(ethylene terephthalate), poly(1,3-propylene terephthalate) and copolymers thereof.

20 9. The moisture vapor permeable, substantially liquid impermeable composite sheet material according to claim 1, wherein said composite sheet has a hydrohead of at least 50 cm, and a moisture vapor permeability of at least 600 g/m²/24 hr.

25 10. The moisture vapor permeable, substantially liquid impermeable composite sheet material according to claim 2, wherein said composite sheet has a hydrohead of at least 50 cm, and a moisture vapor permeability of at least 600 g/m²/24 hr.

30 11. The moisture vapor permeable, substantially liquid impermeable composite sheet material according to claim 2, wherein said composite sheet has a bond strength of at least 50 grams/inch between the

second nonwoven layer and the film when said composite sheet is either wet or dry.

12. The moisture vapor permeable, substantially liquid
5 impermeable composite sheet material according to claim 1, which passes the viral barrier test according to ASTM F-1671.

13. The moisture vapor permeable, substantially liquid
impermeable composite sheet material according to claim 2, which passes
10 the viral barrier test according to ASTM F-1671.

14. The moisture vapor permeable, substantially liquid
impermeable composite sheet material according to claim 1, wherein said
polymeric film is no more than 25 micrometers thick.
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15. The moisture vapor permeable, substantially liquid
impermeable composite sheet material according to claim 2, wherein said
polymeric film is no more than 25 micrometers thick.

16. The moisture vapor permeable, substantially liquid
impermeable composite sheet material according to claim 1, wherein said
polymeric film is a moisture vapor permeable monolithic block copolyether
ester film.
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17. The moisture vapor permeable, substantially liquid
impermeable composite sheet material according to claim 2, wherein said
polymeric film is a moisture vapor permeable monolithic block copolyether
ester film.
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18. A garment made from the composite sheet material of claim 1,
in which the first nonwoven layer forms the outer surface.
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19. A garment made from the composite sheet material of claim 2,
in which the second nonwoven layer forms the outer surface.
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20. A protective cover for automobiles made from the composite sheet material of claim 1.

5 21. A protective cover for automobiles made from the composite sheet material of claim 2.

22. A protective cover for crops made from the composite sheet material of claim 1.

10 23. A protective cover for crops made from the composite sheet material of claim 2.

24. Housewrap made from the composite sheet material of claim 1.

15 25. Housewrap made from the composite sheet material of claim 2.

20 26. A roofliner made from the composite sheet material of claim 1.

27. A roofliner made from the composite sheet material of claim 2.

28. A diaper made from the composite sheet material of claim 1.

25 29. A diaper made from the composite sheet material of claim 2.

30 30. A sanitary napkin made from the composite sheet material of claim 1.

31. A sanitary napkin made from the composite sheet material of claim 2.

32. A cleanroom garment made from the composite sheet material of claim 1.

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33. A cleanroom garment made from the composite sheet material of claim 2.

34. A steam sterilization wrap made from the composite sheet
5 material of claim 1.

35. A steam sterilization wrap made from the composite sheet material of claim 2.

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